

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

Claim 1 (Currently amended). A curable adhesive composition for anchoring materials in or to concrete or masonry comprising:

- a. a polymerizable vinyl ester compound;
- b. an ethylenically unsaturated monomer reactive with said polymerizable vinyl ester;
- c. from about 5 wt % to about 10 wt % of reactive multifunctional acrylate;
- d. curing catalyst; and
- e. activator;

said adhesive composition having a pull out performance after one hour at a temperature of 23°C of at least about 70 KN.

Claim 2 (Previously presented). The adhesive composition of claim 1 wherein said polymerizable vinyl ester is present in the composition in amounts of from about 10 wt % to about 30 wt % of the composition.

Claim 3 (Previously presented). The adhesive composition of claim 1 wherein said polymerizable vinyl ester is present in the composition in amounts of from about 10 wt % to about 25 wt % of the composition.

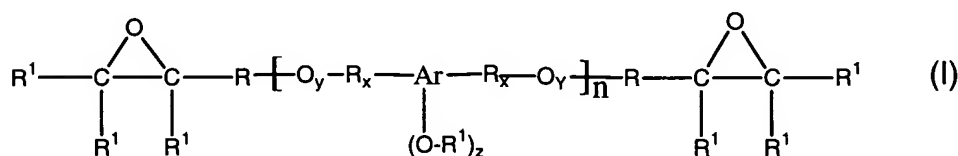
Claim 4 (Previously presented). The adhesive composition of claim 1 wherein said reactive multifunctional acrylate comprises a major proportion of acrylate that is at least tri-functional.

Claim 5 (Currently amended). The adhesive composition of claim 46 wherein said reactive multifunctional acrylate consists essentially of acrylate that is at least tri-functional.

Claim 6 (Previously presented). The adhesive composition of claim 5 wherein said reactive multifunctional acrylate comprises acrylate that is at least tetra-functional.

Claim 7 (Previously presented). The adhesive composition of claim 6 wherein said reactive multifunctional acrylate consists essentially of acrylate that is at least tetra-functional.

Claim 8 (Currently amended). The adhesive composition of claim 1 wherein said polymerizable vinyl ester comprises the reaction product of an epoxy compound and a compound containing an ethylenically unsaturated group, said epoxy compound corresponding to formula (I),



wherein

Ar is substituted or unsubstituted aryl.

R is substituted or unsubstituted divalent radical derived from alkyl, oxyalkyl, arylalkyl, or oxyalkylaryl, ~~alkyl or arylalkyl~~,

R¹ is independently H or R,

for each R_x, x is independently 0 or 1,

for each O_y, y is independently 0 or 1,

for each (O-R²)_z, z is independently 0 to 4,

x, y and z ~~is~~are each independently 0 to 5 provided that x and y can not both be zero, and n is from 1 to 5.

Claim 9 (Previously presented). The adhesive composition of claim 1 wherein said ethylenically unsaturated monomer comprises vinyl toluene.

Claim 10 (Currently amended). The adhesive composition of claim ~~1~~9 wherein said the weight ratio of vinyl ester to said ethylenically unsaturated monomer~~reactive diluent~~ is from about 0.8 to about 3.

Claim 11 (Previously presented). The adhesive composition of claim 10 wherein said ethylenically unsaturated monomer comprises vinyl toluene.

Claim 12 (Previously presented). The adhesive composition of claim 11 wherein said ethylenically unsaturated monomer consists essentially of vinyl toluene.

Claim 13 (Cancelled).

Claim 14 (Currently amended). The adhesive composition of claim 1 having a pull out performance ~~at~~after about 24 hoursat a temperature of 23°C of at least about 80 KN.

Claim 15 (Currently amended). The adhesive composition of claim 1 having a pull out performance after about 24 hours at a temperature of 80°C- of at least about 50 KN.

Claim 16 (Withdrawn). A curable adhesive composition for anchoring materials in or to concrete or masonry comprising: a curable resin; from about 5 pbwa to about 30 pbwa of reactive multifunctional acrylate; curing catalyst; and activator, said composition exhibiting a pull out performance after about 24 hours at a temperature of 80.degree. C. of at least about 50 KN.

Claim 17 (Withdrawn). The adhesive composition of claim 16 wherein said curable resin is selected from the group consisting of acrylic resins, vinyl ester resins, urethane resins, polyester resins and combinations of two or more of these.

Claim 18 (Withdrawn). The adhesive composition of claim 16 wherein said curable resin comprises polymerizable vinyl ester in amount of from about 10 wt % to about 25 wt % of the composition.

Claim 19 (Withdrawn). The adhesive composition of claim 18 wherein said reactive multifunctional acrylate comprises a major proportion of acrylate that is at least tri-functional.

Claim 20 (Withdrawn). The adhesive composition of claim 19 wherein said reactive multifunctional acrylate consists essentially of acrylate that is at least tri-functional.

Claim 21 (Withdrawn). The adhesive composition of claim 20 wherein said reactive multifunctional acrylate comprises acrylate that is at least tetra-functional.

Claim 22 (Withdrawn). The adhesive composition of claim 21 wherein said reactive multifunctional acrylate consists essentially of acrylate that is at least tetra-functional.

Claim 23 (New). A curable adhesive composition for anchoring materials in or to concrete or masonry comprising:

- a. a polymerizable vinyl ester compound;

- b. an ethylenically unsaturated monomer reactive with said polymerizable vinyl ester;
- c. from about 5 wt % to about 10 wt % of reactive multifunctional acrylate wherein said acrylate comprises a major proportion of acrylate that is at least tri-functional;
- d. curing catalyst; and
- e. activator.

Claim 24 (New). The adhesive composition of claim 23 wherein said polymerizable vinyl ester is present in the composition in amounts of from about 10 wt % to about 30 wt % of the composition.

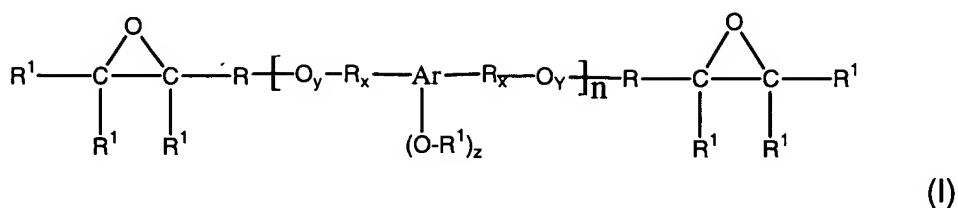
Claim 25 (New). The adhesive composition of claim 23 wherein said polymerizable vinyl ester is present in the composition in amounts of from about 10 wt % to about 25 wt % of the composition.

Claim 26 (New). The adhesive composition of claim 23 wherein said reactive multifunctional acrylate consists essentially of acrylate that is at least tri-functional.

Claim 27 (New). The adhesive composition of claim 26 wherein said reactive multifunctional acrylate comprises acrylate that is at least tetra-functional.

Claim 28 (New). The adhesive composition of claim 27 wherein said reactive multifunctional acrylate consists essentially of acrylate that is at least tetra-functional.

Claim 29 (New). The adhesive composition of claim 23 wherein said polymerizable vinyl ester comprises the reaction product of an epoxy compound and a compound containing an ethylenically unsaturated group, said epoxy compound corresponding to formula (I),



wherein

Ar is substituted or unsubstituted aryl.

R is substituted or unsubstituted divalent radical derived from alkyl, oxyalkyl, arylalkyl, or oxyalkylaryl,

R¹ is independently H or R,

for each R_x, x is independently 0 or 1,

for each O_y, y is independently 0 or 1,

for each (O-R²)_z, z is independently 0 to 4,

x, y and z are each independently 0 to 5 provided that x and y can not both be zero, and n is from 1 to 5.

Claim 28 (New). The adhesive composition of claim 23 wherein said ethylenically unsaturated monomer comprises vinyl toluene.

Claim 29 (New). The adhesive composition of claim 23 wherein said the weight ratio of vinyl ester to said ethylenically unsaturated monomer is from about 0.8 to about 3.

Claim 30 (New). The adhesive composition of claim 29 wherein said ethylenically unsaturated monomer comprises vinyl toluene.

Claim 31 (New). The adhesive composition of claim 30 wherein said ethylenically unsaturated monomer consists essentially of vinyl toluene.

Claim 32 (New). The adhesive composition of claim 23 having a pull out performance after one hour at a temperature of 23°C of at least about 70 KN.

Claim 33 (New). The adhesive composition of claim 23 having a pull out performance after about 24 hours at a temperature of 23°C of at least about 80 KN.

Claim 34 (New). The adhesive composition of claim 1 having a pull out performance after about 24 hours at a temperature of 80°C of at least about 50 KN.

Claim 35 (New). A curable adhesive composition for anchoring materials in or to concrete or masonry comprising:

- a. a polymerizable vinyl ester compound;
- b. an ethylenically unsaturated monomer reactive with said polymerizable vinyl ester wherein said monomer comprises monomer that is aromatic;
- c. from about 5 wt % to about 10 wt % of reactive multifunctional acrylate;
- d. curing catalyst; and
- e. activator.

Claim 36 (New). The adhesive composition of claim 35 wherein said polymerizable vinyl ester is present in the composition in amounts of from about 10 wt % to about 30 wt % of the composition.

Claim 37 (New). The adhesive composition of claim 35 wherein said polymerizable vinyl ester is present in the composition in amounts of from about 10 wt % to about 25 wt % of the composition.

Claim 38 (New). The adhesive composition of claim 35 wherein said reactive

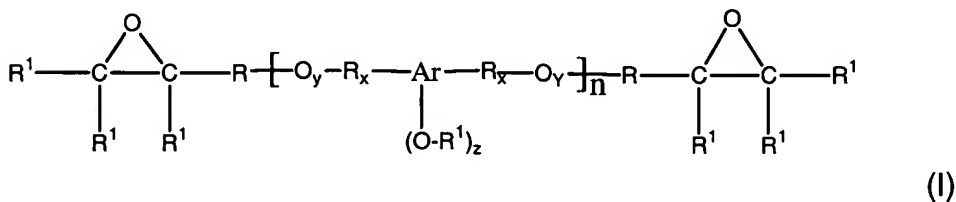
multifunctional acrylate comprises a major proportion of acrylate that is at least tri-functional.

Claim 39 (New). The adhesive composition of claim 38 wherein said reactive multifunctional acrylate consists essentially of acrylate that is at least tri-functional.

Claim 40 (New). The adhesive composition of claim 39 wherein said reactive multifunctional acrylate comprises acrylate that is at least tetra-functional.

Claim 41 (New). The adhesive composition of claim 40 wherein said reactive multifunctional acrylate consists essentially of acrylate that is at least tetra-functional.

Claim 42 (New). The adhesive composition of claim 1 wherein said polymerizable vinyl ester comprises the reaction product of an epoxy compound and a compound containing an ethylenically unsaturated group, said epoxy compound corresponding to formula (I),



wherein

Ar is substituted or unsubstituted aryl.

R is substituted or unsubstituted divalent radical derived from alkyl, oxyalkyl, arylalkyl, or oxyalkylaryl,

R¹ is independently H or R,

for each R_x, x is independently 0 or 1,

for each O_y, y is independently 0 or 1,

for each $(O-R^2)_z$, z is independently 0 to 4,
x, y and z are each independently 0 to 5 provided that x and y can not
both be zero, and n is from 1 to 5.

Claim 43 (New). The adhesive composition of claim 35 wherein said ethylenically unsaturated monomer comprises vinyl toluene.

Claim 44 (New). The adhesive composition of claim 35 wherein said the weight ratio of vinyl ester to said ethylenically unsaturated monomer is from about 0.8 to about 3.

Claim 45 (New). The adhesive composition of claim 44 wherein said ethylenically unsaturated monomer comprises vinyl toluene.

Claim 46 (New). The adhesive composition of claim 45 wherein said ethylenically unsaturated monomer consists essentially of vinyl toluene.

Claim 47 (New). The adhesive composition of claim 35 having a pull out performance after one hour at a temperature of 23°C of at least about 70 KN.

Claim 48 (New). The adhesive composition of claim 36 having a pull out performance after about 24 hours at a temperature of 23°C of at least about 80 KN.

Claim 49 (New). The adhesive composition of claim 35 having a pull out performance after about 24 hours at a temperature of 80°C of at least about 50 KN.